REMARKS

A total of 14 claims remain in the present application. The foregoing amendments are presented in response to the Office Action mailed December 11, 2007, wherefore reconsideration of this application is requested. By way of the above-noted amendments, original claims 16, 21 and 26 have been amended to more precisely define features of the present invention. Claims 18 and 24 have been amended to address the Examiner's objections under 35 U.S.C. § 112. In preparing the above-noted amendments, careful attention was paid to ensure that no new subject matter was introduced.

Referring now to the text of the Office Action:

- Claims 18 and 24 stand rejected under 35 U.S.C. § 112;
- claims 16-18 and 21-27 stand rejected under 35 U.S.C. § 102(e), as being unpatentable over the teaching of United States Patent No. 6,992,978 (Humblet et al); and
- claims 10 and 14-15 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As an initial matter, Applicant appreciates the Examiner's indication of allowable subject matter in claims 10 and 14-15. The claim rejections set out in the Office Action are believed to be traversed by way of the above-noted claim amendments, and further in view of the following discussion.

Objections under 35 U.S.C. § 112

It is believed that the Examiner's objections to claims 18 and 24 are fully addressed by way of the above-noted amendments in these claims. Favourable reconsideration is respectfully requested.

Claim Rejections under 35 U.S.C. § 102(e)

United States Patent No. 6,992,978 (Humblet et al) teaches methods and systems for "fast and reliable failure notification and accelerated switchover for path protection in a communications network having several overlapping areas of nodes interconnected by communications links is described. Upon a failure event involving one of the communications links, a failure message is broadcast identifying the failed link, the broadcast being confined within the areas which include the failed link. A reliable transmission protocol is provided wherein at one or more of the nodes, a LAPD protocol unnumbered information frame containing the failure message is sent to connected nodes. The failure message is resent in another unnumbered information frame after a time interval unless an unnumbered acknowledgment frame containing or referencing the failure message is received from the connected node. A method of path protection includes establishing plural working paths through the nodes. For each working path, an associated protection path is precalculated. A priority is assigned to each working path and associated protection path. A protection path is precalculated for each area through which a particular working path traverses. Upon a failure event, working paths that include the failed link are switched to their respective protection paths. Higher priority protection paths can preempt lower priority paths that share at least one link. At each node, linked lists for protection path activation, working path deactivation and path preemption are implemented upon a failure event." [Abstract]

The person of ordinary skill in the art will recognise that Humblet et al. describes a system that is closely similar to the prior art described in the background of the present application at paragraphs 4-10. Thus, the network provides a plurality of working paths WP1, WP2, WP3 etc. for carrying non-preemtable traffic during normal operations of the network. Each working path is associated with a respective protection path PP1, PP2, PP3 etc. When a network failure is detected, a path protection switching mechanism is activated to reroute non-preemtable traffic from the affected working paths and into their corresponding protection paths. As described at col 15, line 48 to col 16 line 43, the protection switching operation may implement a traffic priority hierarchy, in which higher priority traffic is granted preferential access to the protection paths. In addition, the switching mechanism may also require

"termination of preemptible traffic that had been using the paths that were designated as protection paths".

According to Humblet, working and protection paths can be assigned a priority value, such that lower priority working (and/or protection) paths that traverse a network link can be pre-empted by a higher priority protection path that traverses the same link. [col 2, line 59-col 3 line 16].

The person of ordinary skill in the art will recognise that Humblet et al do not teach or fairly suggest any of the elements of the present invention. In particular, the present invention defines methods in which two or more grades of service are provided for the unprotected (preemptible) traffic, and the specific grade of service associated with any given flow of unprotected traffic is used to control access to the protection channel that is occupied by that traffic flow. Humblet et al do not teach or suggest any equivalent functionality. At best, Humblet et al. teach that unprotected (preemptible) traffic may have to be terminated in order to permit switching of the protected traffic from the working channel. However, Hublet et al do not even hint at the possibility that this operation might be modified (much less prevented entirely) based on a class of service of the unprotected (preemptible) traffic.

This analysis is not negated by Humblet's teaching that lower priority paths may be preempted by a higher priority path, for example at col 2, line 59-col 3 line 16. More particularly, according to Humblet, unprotected traffic can be routed through protection paths, and is always preemptable; that is, it can be terminated to permit switching of protected traffic from the corresponding working channel. A higher priority protection path can preempt a lower priority path, and this preemption function could, for example, have the effect of preventing working traffic from being switched into a lower priority protection path that traverses at least one link in common with the higher priority protection path. However, the person of ordinary skill in the art will recognise that this preemption function is based entirely on the priority values assigned to the involved paths; the existence and/or type of traffic flows within those paths are not considered. Furthermore, the person of ordinary skill in the art will recognise that the protected traffic that is (potentially) preempted in the above scenario is not

attempting to be switched into the high-priority protection path, but rather into a second, lower priority path.

The present invention assigns a priority value to each traffic flow within a protection channel, and then permits (or denies) a request to switch protected traffic into that (same) protection channel based on the unused capacity of the protection channel and the priority values assigned to each traffic flow already within that channel. Humblet does not do this. Rather, Humblet assigns a priority value to each protection path (channel), and then permits a higher priority channel to preempt a lower priority channel. This could result in denial of a request to switch protected traffic into a second, lower priority protection channel. However, it would never result in denial of a request to switch protected traffic into the first, higher priority channel, as is provided by the present invention.

In light of the foregoing, it is respectfully submitted that the presently claimed invention is clearly distinguishable over the teaching of the cited reference, taken alone or in any combination. Thus it is believed that the present application is in condition for allowance, and early action in that respect is courteously solicited.

Respectfully submitted,
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